

Netnod IX update

RIPE 55 EIX

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<http://www.netnod.se>



What's Netnod?

- Non-profit, neutral exchange
 - Started out at KTH-NOC
- Netnod founded 1996
 - Owned by the TU foundation
 - National infrastructure
 - Need for high availability
- Operate 6 IXPs in 5 cities
 - 2 switches in Stockholm



Underground bunkers



Rock Solid Internet Exchange



<http://www.netnod.se>



Rock Solid Internet Exchange



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Common infrastructure services

- Official Swedish time through NTP
 - In Malmö, Sundsvall, Gothenburg and one bunker in Stockholm
- i.root-servers.net
- .SE TLD-service
 - Stockholm, Gothenburg, Sundsvall
- A number of TLDs in Stockholm
 - Among others Verisign's .com and .net · .DK, .NL, .DE, .NO etc.
- Copy of RIPE routing registry
- TPTEST
 - Consumer broadband test

Connecting to Netnod

- Stockholm
 - Charges include cost of two separately routed fiber pairs
 - One to each bunker
- Other cities
 - ISP have to find a fiber provider themselves
 - Co-ordination needed to patch through to us

Pricing structure (new this year)

- Stockholm outer city
 - Outer city
 - 2x10GE: 410k SEK (\$58.6k)
 - 2x1GE: 310k SEK (\$44.4k)
 - Inner city:
 - 2x10GE: 325k SEK (\$46.5k)
 - 2x1GE: 225k SEK (\$32.2k)
- Malmö/Gothenburg/Sundsvall
 - 10GE: 140k SEK (\$20k)
 - 1GE: 90k SEK (\$12.9k)

Customers per site

City	1 G	10 G
Stockholm	27 (29)	18 (16)
Göteborg	9	5
Malmö	9	7
Sundsvall	7 (12)	6 (4)
Luleå	3	-

News

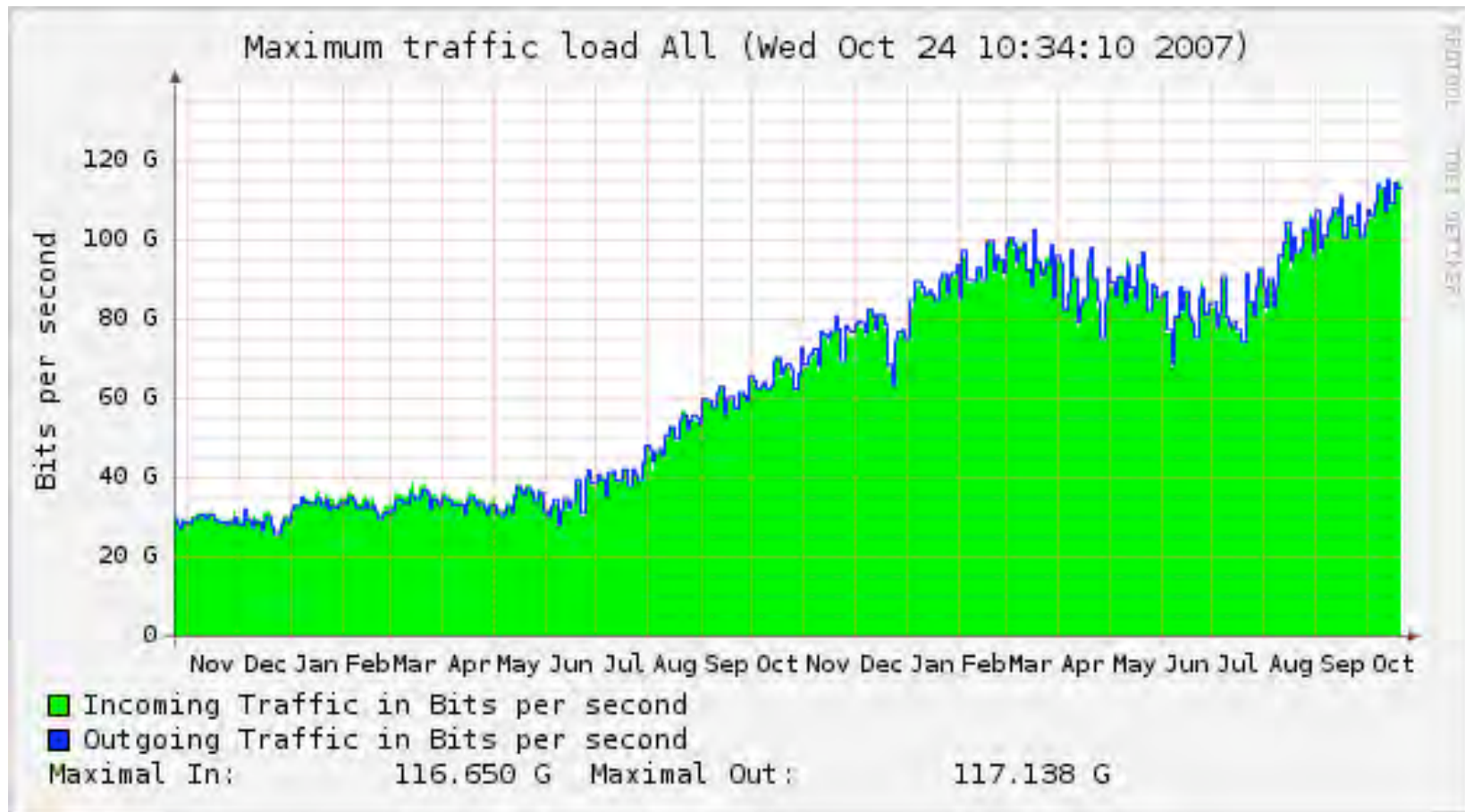
- Significant increase in 10GB ports
- Started router upgrade to handle 10Gbp services
 - Foundry XMR equipment
- Outreach coordinator hired
 - Yup, that's me! :-)

Top ISPs

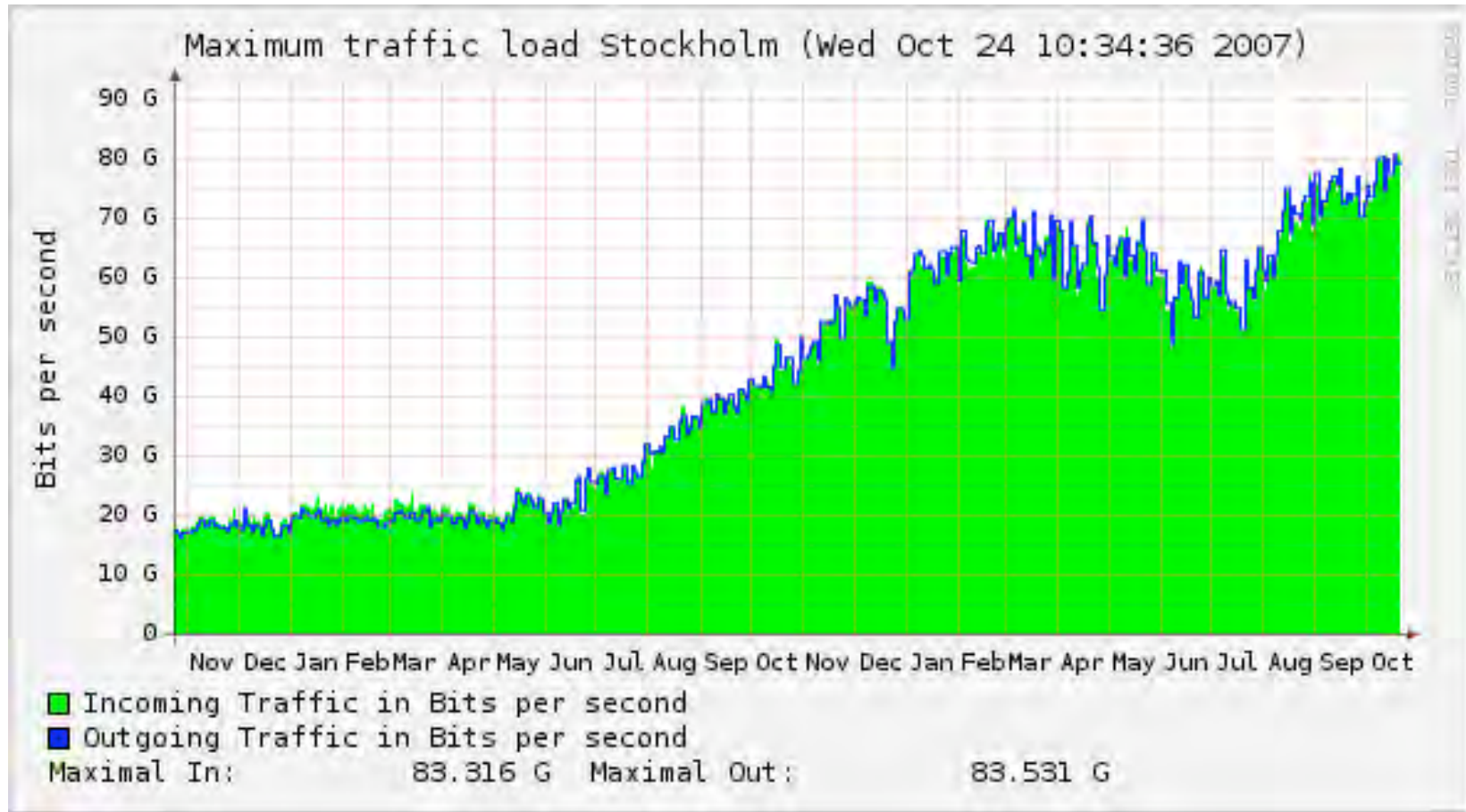
(Highest average last 24h)

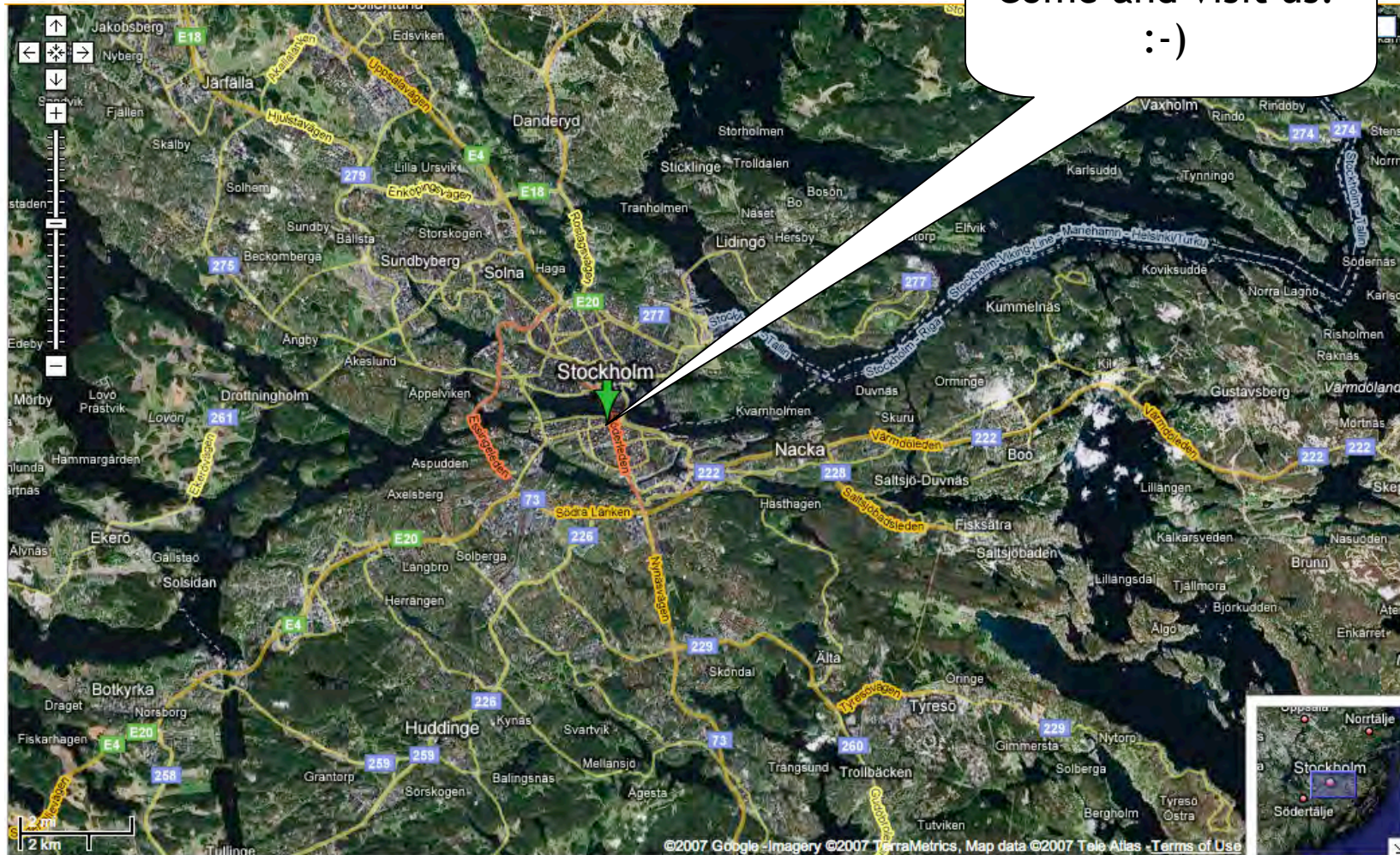
Num	ISP	AS	Traffic
1	B2 Bredband AB	2119	12.01 Gb/s
2	Com Hem AB	39651	10.78 Gb/s
3	TeliaSonera AB Networks	3301	7.43 Gb/s
4	Labs2 i Lund AB	29518	6.32 Gb/s
5	Port80/Rix Telecom AB	16150	5.84 Gb/s
6	TDC Song AB	3246	3.91 Gb/s
7	Bahnhof AB	8473	3.75 Gb/s
8	IP-Only Telecommunication AB	12552	3.56 Gb/s
9	Lidero Network AB	13189	2.74 Gb/s
10	Cogent Communications Deutschl	174	2.70 Gb/s
11	Tele2 Sverige AB	1257	2.11 Gb/s
12	Net at Once Sweden AB	35706	1.50 Gb/s
13	Ownit Broadband AB	33885	1.48 Gb/s
14	SUNET	1653	1.33 Gb/s
15	TDC Solutions A/S	3292	1.21 Gb/s
16	Telenor AB	8434	1.20 Gb/s
17	Finnet Carrier Ltd	16086	1.17 Gb/s
18	Saunalahti Group Oyj	6667	1.16 Gb/s
19	B2 Bredband AB	8642	1.10 Gb/s
20	Interoute Communication Ltd	8928	1.06 Gb/s

Cumulative traffic



Traffic - Stockholm





Thank You

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